

PART S

REQUIREMENTS FOR FINANCIAL ASSURANCE

Sec. S.1 - Purpose. This Part provides for financial assurance arrangements in support of decontamination, decommissioning, reclamation, restoration, disposal, and any other activity required by the Agency, for costs associated with licensed facilities and sites.

Sec. S.2 - Scope. This Part sets forth the requirements pursuant to [cite applicable State statute(s)] for the establishment of financial assurance arrangements for the categories of licensees listed in S.4b. [licensed under Part C, M, N, or U of these regulations]. Such arrangements may consist of surety bonds, cash deposits, certificates of deposit, deposit of government securities, letters or lines of credit, another approved mechanism, or any combination of approved mechanisms.

Sec. S.3 - Definitions.

"Cost estimate" means a document containing the total costs that would be incurred if an independent contractor were hired to perform decommissioning of the facility and disposal of radioactive materials at the facility, and associated administrative indirect and legal costs to the Agency in conducting decommissioning oversight.

"Decommissioning funding plan" means a written document that contains a cost estimate for decommissioning and a description of the method for assuring for decommissioning, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility.

"Facility" means the location within one building, vehicle, or under one roof and under the same administrative control (1) at which the possession, use, processing or storage of radioactive material is or was authorized or (2) at which one or more radioactivity-inducing machines are or were installed or located. "Facility" may also mean multiple such locations at a site or part of a site.

"Financial surety" means the method of assuring that sufficient funds will be available at the time of license termination and decommissioning of the facility to cover all costs associated with the decommissioning.

"Site" means the area contained within the boundary of a location under the control of persons generating or storing radioactive materials.

Sec. S.4 - Financial Surety Arrangements Required.

- a. The Agency may require any licensee to furnish a decommissioning financial assurance arrangement in a dollar amount determined by the Agency as necessary to protect public health and safety, to ensure corrective action during operation, to ensure decontamination and decommissioning of a facility or site, and for disposal of radioactive materials in the event of abandonment, insolvency [default] or other inability of the licensee to meet the requirements of [cite applicable State statute(s)], these regulations, or the license.

- b. The following specific licensees are required to furnish decommissioning financial assurance arrangements:
- i. Each licensee authorized to possess and use greater than 370 MBq (10 mCi) of source material in a readily dispersible form; and
 - ii. Each licensee authorized to possess and use radioactive material with a half-life greater than 120 days, in quantities:
 - (1) Greater than 10^3 times the applicable quantity of Appendix A, in unsealed form. For a combination of isotopes, if R divided by 10^3 is greater than 1 (unity rule), where R is defined here as the sum of the ratios of the quantity of each isotope to the applicable value in Appendix A;
 - (2) Greater than 10^{10} times the applicable quantity of Appendix A, in sealed sources or plated foils. For a combination of isotopes, if R divided by 10^{10} is greater than 1 (unity rule), where R is defined as in S.4b.ii(1);
 - (3) Greater than 370 Bq (0.01 μ Ci) for any alpha emitting radionuclide not listed in Appendix A of Part S, or mixtures of alpha emitters of unknown composition. This is for the purpose of determining if the quantity of licensed radioactive material requires a decommissioning warranty or a decommissioning funding plan as defined.
 - iii. Former U.S. Atomic Energy Commission or NRC licensed facilities;
 - iv. Radioactive waste collection and/or processing licensees; and
 - v. Other persons with, or applicants for, a specific license as determined by the Agency[;
 - vi. Radioactive waste disposal licensees;]
 - [vii. Source material milling licensees;]
 - [viii. Ore refineries].
- c. The amount of funds to be provided by such financial assurance arrangements shall be based on Agency-approved cost estimates for (1) the disposal of radioactive materials, (2) decontamination and decommissioning of buildings, facilities and the site to levels which would allow release for unrestricted use of these areas upon decommissioning[, and (3) the reclamation of tailings and/or waste disposal areas in accordance with technical criteria delineated in Parts C, M, N, (and/or U) of these regulations as appropriate].
- d. The Agency shall consider the following in making its determination of the financial assurance requirements of each individual applicant or licensee:

- i. The cost of removal and/or disposal of radioactive material, or a radiation-producing or radioactivity-inducing machine, which is or would be generated, stored, processed or otherwise present at the facility or site;
 - ii. The probable extent of contamination through the possession or use of radioactive material, at or adjacent to the facility or site and the probable cost of removal of such contamination.
- e. Cost estimates used to determine the amount of a decommissioning financial assurance arrangement shall take into account total costs that would be incurred if an independent contractor were hired to dispose of radioactive materials and perform decontamination, decommissioning, and reclamation work. The cost estimates shall include all reasonable Agency costs, including administrative indirect and legal costs incurred by the Agency in conducting or overseeing the decontamination and decommissioning and overseeing the use of financial instruments established by the licensee in accordance with this Part.
- f. Prior to approval of an application for a new license, an applicant shall provide a signed executed original copy of each financial assurance instrument required by this Part and approved by the Agency. [An applicant for a new license shall submit a certification that financial assurance for decommissioning has been provided in the amount required by this Part. This certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued but before the receipt of licensed material. If the applicant defers execution of the financial assurance instrument until after the license has been issued, a signed executed original copy of each financial assurance instrument required by this Part and approved by the Agency shall be submitted to the Agency prior to receipt or possession of radioactive materials.]

Sec. S.5 - Decommissioning Funding Plan Required.

- a. Applicants for and holders of licenses authorizing the possession and use of unsealed radioactive material with half-life greater than 120 days and in quantities greater than 10^5 times the applicable quantity in Appendix A shall establish an Agency-approved decommissioning funding plan to assure the availability of funds for decommissioning activities conducted over the life of the licensed facility. The decommissioning funding plan is also required for licensees authorized for a combination of isotopes if R divided by 10^5 is greater than 1 (unity rule), where R is defined as in S.4b.ii.(1).
- b. Each holder of, or applicant for, any specific license authorizing the possession and use of sealed sources or plated foils of half-life greater than 120 days and in quantities greater than 10^{12} times the applicable quantity in Appendix A shall establish an Agency-approved decommissioning funding plan to assure the availability of funds for decommissioning activities conducted over the life of the licensed facility. The decommissioning funding plan is also required for licensees authorized for a combination of isotopes if R divided by 10^{12} is greater than 1 (unity rule), where R is defined as in S.4b.ii.(1). The decommissioning funding plan must be submitted to the Agency by (date).
- c. Waste collectors and waste processors, as defined in Part D, Appendix G, shall establish an Agency-approved decommissioning funding plan to assure the availability of funds for decommissioning activities conducted over the life of the licensed facility. The

decommissioning funding plan must include the cost of disposal of the maximum radioactivity (becquerels or curies) of radioactive material permitted by the license, and the cost of disposal of the maximum quantity, by volume, of radioactive material that could be present at the licensee's facility at any time, in addition to the cost to remediate the licensee's site to meet the license termination criteria of Parts C and O of these regulations. The decommissioning funding plan must be submitted by (date).

- d. This decommissioning funding plan shall contain a cost estimate for decommissioning, as required in this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed three years.
- e. The decommissioning funding plan shall also include a certification by the licensee that funding for decommissioning activities has been provided for in the amount of the cost estimate for decommissioning. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued, but prior to the receipt or possession of radioactive material. A signed original of the financial instrument shall be submitted to the Agency.

Sec. S.6 - Acceptable Financial Assurance Methods.

- a. Financial assurance arrangements shall contain provisions that are acceptable to the Agency for:
 - i. Defining the amount and term of the warranty;
 - ii. Providing written notification to the Agency by the warrantor at least ninety (90) days prior to cancellation, termination, or revocation of the warranty; and
 - iii. Converting the warranty into cash upon forfeiture of the warranty.
- b. Financial assurance arrangements shall be in a form as described below:
 - i. Prepayment of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs.
 - ii. A guarantee method which ensures that decommissioning costs will be paid should the licensee default, such as:
 - (1) A bond issued by a fidelity or surety company consistent with the provisions of [cite applicable State statute(s)]; or
 - (2) An irrevocable "letter of credit" or "line of credit" issued by a recognized financial institution whose financial condition and commitment are established to the satisfaction of the Agency; or

- (3) A guarantee of funds by the applicant, licensee, or parent company that satisfies the requirements listed below. However, this self guarantee shall not apply to uranium or thorium milling licensees.
 - (a) The Agency may accept a parent company guarantee of funds for decommissioning costs based upon a financial test of the parent company and a written guarantee as contained in Appendix B.
 - (b) The Agency may accept an applicant or licensee guarantee of funds for decommissioning costs based upon a financial test of the applicant or licensee and a written guarantee as contained in Appendix C.
 - (c) For commercial companies that do not issue bonds, the Agency may accept an applicant or licensee guarantee for decommissioning costs based upon a financial test of the applicant or licensee and a written guarantee as contained in Appendix D.
 - (d) For nonprofit entities, such as colleges, universities, and nonprofit hospitals, the Agency may accept an applicant or licensee guarantee of funds for decommissioning costs based upon a financial test of the applicant or licensee and a written guarantee as contained in Appendix E.
- (4) Any financial assurance shall:
 - (a) Provide that the term be open-ended or have provisions for automatic renewal until termination of the license by the Agency, unless it can be demonstrated that another arrangement would provide an equivalent level of assurance.

[...or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date the issuer notifies the Agency, the beneficiary, and the licensee of its intention not to renew.]
 - (b) Provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the Agency within 30 days after receipt of notification of cancellation.
 - (c) Be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the Agency. An acceptable trustee includes an appropriate state or federal government agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
 - (d) Remain in effect until the Agency has terminated the license.
- (5) For any financial assurance arrangement:

- (a) A guarantee of funds by the applicant, licensee or parent company may not be used in combination with other financial methods to satisfy the requirements of this Part.
 - (b) A guarantee by the applicant or licensee may not be used in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company.
 - (c) The value shall not be dependent upon the success, profitability, or continued operation of the licensed business or operation.
- iii. An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in S.4; or
- iv. A statement of intent, in the case of federal, state, or local government licensees, containing a cost estimate for decommissioning or an amount pursuant to S.4, and indicating that funds for decommissioning will be obtained when necessary.
- v. When a governmental entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity.
- vi. Financial assurance warranties previously provided to any State, Federal and/or local governing bodies concerning activities subject to license under these regulations, where the amount, terms, and conditions of such financial assurances have been established to the satisfaction of the Agency and in accordance with the requirements of this Part.
- vii. Except for the guarantee of funds noted in S.6b.ii.(3), an approved combination of the above may be used to establish an acceptable financial assurance arrangement.

Sec. S.7 - Periodic Review of Financial Assurances.

- a. The licensee shall provide proposed changes to the financial assurances in writing to the Agency.
 - i. These changes may include, but are not limited to, updated decommissioning funding plans, cost estimates, or the type of financial assurance.
 - ii. The licensee shall include an evaluation of whether an adjustment is necessary to the amount of financial assurance to account for:

- (1) Increases or decreases in cost estimates resulting from inflation or deflation;
- (2) Changes in engineering plans, activities performed, authorized quantities of radioactive material; or
- (3) Changes in any other conditions affecting the costs to decontaminate, decommission, and store, transfer, process, or dispose radioactive material.

[iii. The licensee shall submit proposed changes to the decommissioning funding plan no later than {insert date} in any calendar year in which the changes become necessary.]

- b. Each financial assurance shall be subject to periodic [annual] review and approval by the Agency to assure its adequacy.
- c. With the approval of the Agency, a licensee may reduce the amount of a decommissioning financial assurance instrument as decommissioning activities are completed in accordance with an approved decommissioning plan and/or to reflect current site conditions and license authorizations.
- d. Regardless of whether decommissioning is phased through the life of licensed operations or occurs at the end, appropriate and adequate decommissioning financial assurances shall be maintained in effect and in good standing by the licensee until termination of the license or as otherwise authorized by the Agency.

Sec. S.8 - Financial Assurances Recordkeeping. Each licensee shall keep records of financial assurances, including, but not limited to, records of the cost estimate performed for the decommissioning funding plan in accordance with S.5, of the amount certified for decommissioning in accordance with S.4, and records of the funding method used for assuring funds if either a funding plan or certification is used in accordance with S.6.

Sec. S.9 - Minimum Financial Assurance Amount. Each licensee authorized to possess and use radioactive material with a half-life greater than 120 days shall provide no less than the following minimum required amount of financial assurance for decommissioning by quantity of material:

a.	Greater than 10^4 but less than or equal to 10^5 times the applicable quantities in Appendix A in unsealed form. For a combination of isotopes, if R, as defined in S.4b.ii.(1), divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1.	\$1,125,000
b.	Greater than 10^3 but less than or equal to 10^4 times the applicable quantities in Appendix A in unsealed form. For a combination of isotopes, if R, as defined in S.4b.ii.(1), divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1.	\$225,000
c.	Greater than 10^{10} times the applicable quantities Appendix A in sealed sources or plated foils. For a combination of isotopes, if R, as defined in S.4b.ii.(1), divided by 10^{10} is greater than 1.	\$113,000

Licensees required to submit the \$1,125,000 amount must do so by (effective date of the rule).
Licensees required to submit the \$113,000 or \$225,000 amount must do so by (six months following the effective date of the rule).

Sec. S.10 - Long-term Care Financial Assurance Requirements. In addition to the decommissioning financial assurance required by S.4, the Agency may require any licensee to provide a long-term care warranty if the licensed facility will remain a disposal site for radioactive materials subsequent to the termination of the license, or the license will be terminated using criteria in Part O.10 or O.11 of the regulations.

Sec. S.11 - Exemption From Financial Assurance Requirements. The following persons are exempt from the requirements of Part S:

- a. Persons authorized to possess no more than 10^3 the quantity specified in C.4, Appendix A of these regulations, or combination of radioactive material listed therein as given in Appendix A, Note 1.
- b. Persons authorized to possess radioactive noble gases in sealed sources with no radioactive daughter product with half-life greater than 30 days.
- c. Other persons authorized by the Agency.

[Sec. S.12 - Timely Establishment of Financial Assurance Arrangements. Each holder of a specific license issued on or after {date specified by the Agency}, which is of a type described in S.4b. shall:

- a. Provide financial assurance for decommissioning in accordance with the criteria set forth in this Part.
- b. On or before {date specified by the Agency}, submit a decommissioning funding plan or a certification of financial assurance for decommissioning in an amount at least equal to \$1,125,000, in accordance with the criteria set forth in this Part. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan at this time, the licensee shall include a decommissioning funding plan in any application for license renewal.
- c. Submit, on or before {date specified by the Agency}, a certification of financial assurance for decommissioning or a decommissioning funding plan in accordance with the criteria set forth in this Part.]

Part S**Appendix A**Quantities For Use With S.4, S.5, and S.9

Material	kilobecquerels	(microcuries)
Americium-241	0.37	(0.01)
Antimony-122	3,700.00	(100.00)
Antimony-124	370.00	(10.00)
Antimony-125	370.00	(10.00)
Arsenic-73	3,700.00	(100.00)
Arsenic-74	370.00	(10.00)
Arsenic-76	370.00	(10.00)
Arsenic-77	3,700.00	(100.00)
Barium-131	370.00	(10.00)
Barium-133	370.00	(10.00)
Barium-140	370.00	(10.00)
Bismuth-210	37.00	(1.00)
Bromine-82	370.00	(10.00)
Cadmium-109	370.00	(10.00)
Cadmium-115m	370.00	(10.00)
Cadmium-115	3,700.00	(100.00)
Calcium-45	370.00	(10.00)
Calcium-47	370.00	(10.00)
Carbon-14	3,700.00	(100.00)
Cerium-141	3,700.00	(100.00)
Cerium-143	3,700.00	(100.00)
Cerium-144	37.00	(1.00)
Cesium-131	37,000.00	(1,000.00)
Cesium-134m	3,700.00	(100.00)
Cesium-134	37.00	(1.00)
Cesium-135	370.00	(10.00)
Cesium-136	370.00	(10.00)
Cesium-137	370.00	(10.00)
Chlorine-36	370.00	(10.00)
Chlorine-38	370.00	(10.00)
Chromium-51	37,000.00	(1,000.00)
Cobalt-58m	370.00	(10.00)
Cobalt-58	370.00	(10.00)
Cobalt-60	37.00	(1.00)
Copper-64	3,700.00	(100.00)
Dysprosium-165	370.00	(10.00)
Dysprosium-166	3,700.00	(100.00)
Erbium-169	3,700.00	(100.00)
Erbium-171	3,700.00	(100.00)

Appendix AQuantities For Use With S.4, S.5 and S.9 (Continued)

Material	kilobecquerels	(microcuries)
Europium-152 (9.2 h)	3,700.00	(100.00)
Europium-152 (13 yr)	37.00	(1.00)
Europium-154	37.00	(1.00)
Europium-155	370.00	(10.00)
Fluorine-18	37,000.00	(1,000.00)
Gadolinium-153	370.00	(10.00)
Gadolinium-159	3,700.00	(100.00)
Gallium-72	370.00	(10.00)
Germanium-71	3,700.00	(100.00)
Gold-198	3,700.00	(100.00)
Gold-199	3,700.00	(100.00)
Hafnium-181	370.00	(10.00)
Holmium-166	3,700.00	(100.00)
Hydrogen-3,	37,000.00	(1000.00)
Indium-113m	3,700.00	(100.00)
Indium-114m	370.00	(10.00)
Indium-115m	3,700.00	(100.00)
Indium-115	370.00	(10.00)
Iodine-125	37.00	(1.00)
Iodine-126	37.00	(1.00)
Iodine-129	3.70	(0.10)
Iodine-131	37.00	(1.00)
Iodine-132	370.00	(10.00)
Iodine-133	37.00	(1.00)
Iodine-134	370.00	(10.00)
Iodine-135	370.00	(10.00)
Iridium-192	370.00	(10.00)
Iridium-194	3,700.00	(100.00)
Iron-55	3,700.00	(100.00)
Iron-59	370.00	(10.00)
Krypton-85	3,700.00	(100.00)
Krypton-87	370.00	(10.00)
Lanthanum-140	370.00	(10.00)
Lutetium-177	3,700.00	(100.00)
Manganese-52	370.00	(10.00)
Manganese-54	370.00	(10.00)
Manganese-56	370.00	(10.00)
Mercury-197m	3,700.00	(100.00)
Mercury-197	3,700.00	(100.00)
Mercury-203	370.00	(10.00)
Molybdenum-99	3,700.00	(100.00)
Neodymium-147	3,700.00	(100.00)

Appendix A**Quantities For Use With S.4, S.5 and S.9 (Continued)**

<u>Material</u>	<u>kilobecquerels</u>	<u>(microcuries)</u>
Neodymium-149	3,700.00	(100.00)
Nickel-59	3,700.00	(100.00)
Nickel-63	370.00	(10.00)
Nickel-65	3,700.00	(100.00)
Niobium-93m	370.00	(10.00)
Niobium-95	370.00	(10.00)
Niobium-97	370.00	(10.00)
Osmium-185	370.00	(10.00)
Osmium-191m	3,700.00	(100.00)
Osmium-191	3,700.00	(100.00)
Osmium-193	3,700.00	(100.00)
Palladium-103	3,700.00	(100.00)
Palladium-109	3,700.00	(100.00)
Phosphorus-32	370.00	(10.00)
Phosphorus-33	3,700.00	(100.00)
Platinum-191	3,700.00	(100.00)
Platinum-193m	3,700.00	(100.00)
Platinum-193	3,700.00	(100.00)
Platinum-197m	3,700.00	(100.00)
Platinum-197	3,700.00	(100.00)
Plutonium-239	0.37	(0.01)
Polonium-210	3.70	(0.10)
Potassium-42	370.00	(10.00)
Praseodymium-142	3,700.00	(100.00)
Praseodymium-143	3,700.00	(100.00)
Promethium-147	370.00	(10.00)
Promethium-149	370.00	(10.00)
Radium-226	0.37	(0.01)
Rhenium-186	3,700.00	(100.00)
Rhenium-188	3,700.00	(100.00)
Rhodium-103m	3,700.00	(100.00)
Rhodium-105	3,700.00	(100.00)
Rubidium-86	370.00	(10.00)
Rubidium-87	370.00	(10.00)
Ruthenium-97	3,700.00	(100.00)
Ruthenium-103	370.00	(10.00)
Ruthenium-105	370.00	(10.00)
Ruthenium-106	37.00	(1.00)
Samarium-151	370.00	(10.00)
Samarium-153	3,700.00	(100.00)
Scandium-46	370.00	(10.00)
Scandium-47	3,700.00	(100.00)

Appendix A**Quantities For Use With S.4, S.5 and S.9 (Continued)**

Material	kilobecquerels	(microcuries)
Scandium-48	370.00	(10.00)
Selenium-75	370.00	(10.00)
Silicon-31	3,700.00	(100.00)
Silver-105	370.00	(10.00)
Silver-110m	37.00	(1.00)
Silver-111	3,700.00	(100.00)
Sodium-22	37.00	(1.00)
Sodium-24	370.00	(10.00)
Strontium-85	370.00	(10.00)
Strontium-89	37.00	(1.00)
Strontium-90	3.70	(0.10)
Strontium-91	370.00	(10.00)
Strontium-92	370.00	(10.00)
Sulphur-35	3,700.00	(100.00)
Tantalum-182	370.00	(10.00)
Technetium-96	370.00	(10.00)
Technetium-97m	3,700.00	(100.00)
Technetium-97	3,700.00	(100.00)
Technetium-99m	3,700.00	(100.00)
Technetium-99	370.00	(10.00)
Tellurium-125m	370.00	(10.00)
Tellurium-127m	370.00	(10.00)
Tellurium-127	3,700.00	(100.00)
Tellurium-129m	370.00	(10.00)
Tellurium-129	3,700.00	(100.00)
Tellurium-131m	370.00	(10.00)
Tellurium-132	370.00	(10.00)
Terbium-160	370.00	(10.00)
Thallium-200	3,700.00	(100.00)
Thallium-201	3,700.00	(100.00)
Thallium-202	3,700.00	(100.00)
Thallium-204	370.00	(10.00)
Thorium (natural)	3,700.00	(100.00)
Thulium-170	370.00	(10.00)
Thulium-171	370.00	(10.00)
Tin-113	370.00	(10.00)
Tin-125	370.00	(10.00)
Tungsten-181	370.00	(10.00)
Tungsten-185	370.00	(10.00)
Tungsten-187	3,700.00	(100.00)
Uranium (natural)	3,700.00	(100.00)
Uranium-233	0.37	(0.01)

Appendix A**Quantities For Use With S.4, S.5 and S.9 (Continued)**

<u>Material</u>	<u>kilobecquerels</u>	<u>(microcuries)</u>
Uranium-234/235	0.37	(0.01)
Vanadium-48	370.00	(10.00)
Xenon-131m	37,000.00	(1,000.00)
Xenon-133	3,700.00	(100.00)
Xenon-135	3,700.00	(100.00)
Ytterbium-175	3,700.00	(100.00)
Yttrium-90	370.00	(10.00)
Yttrium-91	370.00	(10.00)
Yttrium-92	3,700.00	(100.00)
Yttrium-93	3,700.00	(100.00)
Zinc-65	370.00	(10.00)
Zinc-69m	3,700.00	(100.00)
Zinc-69	37,000.00	(1,000.00)
Zirconium-93	370.00	(10.00)
Zirconium-95	370.00	(10.00)
Zirconium-97	370.00	(10.00)
Any alpha-emitting radionuclide not listed above or mixtures of alpha emitters of unknown composition	0.37	(0.01)
Any radionuclide other than alpha-emitting radionuclides, not listed above or mixtures of beta emitters of unknown composition	3.70	(0.10)

Note: For purposes of S.4, where there is involved a combination of radionuclides in known amounts, the limit for the combination should be derived as follows: Determine, for each radionuclide in the combination, the ratio between the quantity present in the combination and the limit otherwise established for the specific radionuclide when not in combination. The sum of such ratios for all the radionuclides in the combination is R.

Note: To convert microcuries (μCi) to SI units of kilobecquerels (kBq), multiply the above values by 37.

Example: Zirconium-97 (10 μCi) (37) = 370 kBq.
 (10 μCi multiplied by 37 is equivalent to 370 kBq)

PART S**Appendix B****CRITERIA RELATING TO USE OF FINANCIAL TESTS AND PARENT COMPANY
GUARANTEES FOR PROVIDING REASONABLE ASSURANCE OF FUNDS FOR
DECOMMISSIONING****I. Introduction**

An applicant or licensee may provide reasonable assurance of the availability of funds for decommissioning based on obtaining a parent company guarantee that funds will be available for decommissioning costs and on a demonstration that the parent company passes a financial test. This appendix establishes criteria for passing the financial test and for obtaining the parent company guarantee.

II. Financial Test

(A) To pass the financial test, the parent company must meet the criteria of either II.(A)(1) or II.(A)(2):

(1) The parent company must have:

- (a) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and,
- (b) Net working capital and tangible net worth each at least six times the current decommissioning cost estimates (or prescribed amount if a certification is used); and,
- (c) Tangible net worth of at least \$10 million; and,
- (d) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the current decommissioning cost estimates (or prescribed amount if a certification is used).

(2) The parent company must have:

- (a) A current rating for its most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and,
- (b) Tangible net worth at least six times the current decommissioning cost estimate (or prescribed amount if a certification is used); and,
- (c) Tangible net worth of at least \$10 million; and,

- (d) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the current decommissioning cost estimates (or prescribed amount if certification is used).
- (B) The parent company's independent certified public accountant must have compared the data used by the parent company in the financial test, which is derived from the independently audited, year-end financial statement. In connection with that procedure, the licensee shall inform the Agency within 90 days of any matters coming to the auditor's attention that cause the auditor to believe that the data specified in the financial test should be adjusted and that the company no longer passes the test.
- (C)
 - (1) After the initial financial test, the parent company must repeat the passage of the test within 90 days after the close of each succeeding fiscal year.
 - (2) If the parent company no longer meets the requirements of II.(A), the licensee must send notice to the Agency of intent to establish alternate financial assurance as specified in the Agency's regulations. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year end financial data show that the parent company no longer meets the financial test requirements. The licensee must provide alternate financial assurance within 120 days after the end of such fiscal year.

III. Parent Company Guarantee

The terms of a parent company guarantee that an applicant or licensee obtains must provide that:

- (A) The parent company guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the licensee and the Agency. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the licensee and the Agency, as evidenced by the return receipts.
- (B) If the licensee fails to provide alternate financial assurance as specified in the Agency's regulations within 90 days after receipt by the licensee and the Agency of a notice of cancellation of the parent company guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the licensee.
- (C) The parent company guarantee and financial test provisions must remain in effect until the Agency has terminated the license.
- (D) If a trust is established for decommissioning costs, the trustee and trust must be acceptable to the Agency. An acceptable trustee includes an appropriate state or federal government agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

PART S**Appendix C****CRITERIA RELATING TO USE OF FINANCIAL TESTS AND SELF-GUARANTEES FOR PROVIDING REASONABLE ASSURANCE OF FUNDS FOR DECOMMISSIONING****I Introduction**

An applicant or licensee may provide reasonable assurance of the availability of funds for decommissioning based on furnishing its own guarantee that funds will be available for decommissioning costs and on a demonstration that the company passes the financial test of Section II of this Appendix. The terms of the self-guarantee are in Section III of this Appendix. Appendix C establishes criteria for passing the financial test for the self-guarantee and establishes the terms for a self-guarantee.

II. Financial Test

(A) To pass the financial test, a company must meet all of the following criteria:

- (1) Tangible net worth at least 10 times the total current decommissioning cost estimate (or the current amount required if certification is used) for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor.
- (2) Assets located in the United States amounting to at least 90 percent of total assets or at least 10 times the total current decommissioning cost estimate (or the current amount required if certification is used) for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor.
- (3) A current rating for its most recent bond issuance of AAA, AA, or A as issued by Standard and Poors (S&P), Aaa, As, or A as issued by Moody's.

(B) To pass the financial test, a company must meet all of the following additional requirements:

- (1) The company must have at least one class of equity securities registered under the Securities Exchange Act of 1934.
- (2) The company's independent certified public accountant must have compared the data used by the company in the financial test which is derived from the independently audited, yearend financial statements for the latest fiscal year, with the amounts in such financial statement. In connection with that procedure, the licensee shall inform the Agency within 90 days of any matters coming to the attention of the auditor that cause the auditor to believe that the data specified in the financial test should be adjusted and that the company no longer passes the test.
- (3) After the initial financial test, the company must repeat passage of the test within 90 days after the close of each succeeding fiscal year.

- (C) If the licensee no longer meets the requirements of Section II.(A) of this Appendix, the licensee must send immediate notice to the Agency of its intent to establish alternate financial assurance as specified in the Agency's regulations within 120 days of such notice.

III. Company Self-Guarantee

The terms of a self-guarantee which an applicant or licensee furnishes must provide that:

- (A) The parent company guarantee will remain in force unless the licensee sends notice of cancellation by certified mail to the Agency. Cancellation may not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Agency, as evidenced by the return receipts.
- (B) The licensee shall provide alternative financial assurance as specified in the Agency's regulations within 90 days following receipt by the Agency of a notice of cancellation of the guarantee.
- (C) The guarantee and financial test provisions must remain in effect until the Agency has terminated the license or until another financial assurance method acceptable to the Agency has been put in effect by the licensee.
- (D) The licensee will promptly forward to the Agency and the licensee's independent auditor all reports covering the latest fiscal year filed by the licensee with the Securities and Exchange Commission pursuant to the requirements of section 13 of the Securities and Exchange Act of 1934.
- (E) If, at any time, the licensee's most recent bond issuance ceases to be rated in any category of "A" or above by either Standard and Poors or Moody's, the licensee will provide notice in writing of such fact to the Agency within 20 days after publication of the change by the rating service. If the licensee's most recent bond issuance ceases to be rated in any category of A or above by both Standard and Poors and Moody's, the licensee no longer meets the requirements of Section II.(A) of this Appendix.
- (F) The applicant or licensee must provide to the Agency a written guarantee (a written commitment by a corporate officer) which states that the licensee will fund and carry out the required decommissioning activities or, upon issuance of an order by the Agency, the licensee will set up and fund a trust in the amount of the current cost estimates for decommissioning.

PART S**Appendix D****CRITERIA RELATING TO USE OF FINANCIAL TESTS AND SELF-GUARANTEE
FOR PROVIDING REASONABLE ASSURANCE OF FUNDS FOR DECOMMISSIONING
BY COMMERCIAL COMPANIES THAT HAVE NO OUTSTANDING RATED BONDS****I. Introduction**

An applicant or licensee may provide reasonable assurance of the availability of funds for decommissioning based on furnishing its own guarantee that funds will be available for decommissioning costs and on a demonstration that the company passes the financial test of Section II of this appendix. The terms of the self-guarantee are in Section III of this appendix. This appendix establishes criteria for passing the financial test for the self-guarantee and establishes the terms for a self-guarantee.

II. Financial Test

(A) To pass the financial test a company must meet the following criteria:

- (1) Tangible net worth greater than \$10 million, or at least 10 times the total current decommissioning cost estimate (or the current amount required if certification is used), whichever is greater, for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor.
- (2) Assets located in the United States amounting to at least 90 percent of total assets or at least 10 times the total current decommissioning cost estimate (or the current amount required if certification is used) for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor.
- (3) A ratio of cash flow divided by total liabilities greater than 0.15 and a ratio of total liabilities divided by net worth less than 1.5.

(B) In addition, to pass the financial test, a company must meet all of the following requirements:

- (1) The company's independent certified public accountant must have compared the data used by the company in the financial test, which is required to be derived from the independently audited year end financial statement based on United States generally accepted accounting practices for the latest fiscal year, with the amounts in such financial statement. In connection with that procedure, the licensee shall inform The Agency within 90 days of any matters that may cause the auditor to believe that the data specified in the financial test should be adjusted and that the company no longer passes the test.
- (2) After the initial financial test, the company must repeat passage of the test within 90 days after the close of each succeeding fiscal year.

- (3) If the licensee no longer meets the requirements of paragraph II.A of this appendix, the licensee must send notice to the Agency of intent to establish alternative financial assurance as specified in Agency regulations. The notice must be sent by certified mail, return receipt requested, within 90 days after the end of the fiscal year for which the year end financial data show that the licensee no longer meets the financial test requirements. The licensee must provide alternative financial assurance within 120 days after the end of such fiscal year.

III. Company Self-Guarantee

The terms of a self-guarantee which an applicant or licensee furnishes must provide that:

- (A) The guarantee shall remain in force unless the licensee sends notice of cancellation by certified mail, return receipt requested, to the Agency. Cancellation may not occur until an alternative financial assurance mechanism is in place.
- (B) The licensee shall provide alternative financial assurance as specified in the regulations within 90 days following receipt by the Agency of a notice of cancellation of the guarantee.
- (C) The guarantee and financial test provisions must remain in effect until the Agency has terminated the license or until another financial assurance method acceptable to the Agency has been put in effect by the licensee.
- (D) The applicant or licensee must provide to the Agency a written guarantee (a written commitment by a corporate officer) which states that the licensee will fund and carry out the required decommissioning activities or, upon issuance of an order by the Agency, the licensee will set up and fund a trust in the amount of the current cost estimates for decommissioning.

PART S**Appendix E****CRITERIA RELATING TO USE OF FINANCIAL TESTS AND SELF-GUARANTEE
FOR PROVIDING REASONABLE ASSURANCE OF FUNDS FOR DECOMMISSIONING
BY NONPROFIT COLLEGES, UNIVERSITIES, AND HOSPITALS****I. Introduction**

An applicant or licensee may provide reasonable assurance of the availability of funds for decommissioning based on furnishing its own guarantee that funds will be available for decommissioning costs and on a demonstration that the applicant or licensee passes the financial test of Section II of this appendix. The terms of the self-guarantee are in Section III of this appendix. This Appendix establishes criteria for passing the financial test for the self-guarantee and establishes the terms for a self-guarantee.

II. Financial Test

- (A) For colleges and universities, to pass the financial test a college or university must meet either the criteria in Paragraph II.A.(1) or the criteria in Paragraph II.A.(2) of this appendix.
 - (1) For applicants or licensees that issue bonds, a current rating for its most recent uninsured, uncollateralized, and unencumbered bond issuance of AAA, AA, or A as issued by Standard and Poors (S&P) or Aaa, Aa, or A as issued by Moodys.
 - (2) For applicants or licensees that do not issue bonds, unrestricted endowment consisting of assets located in the United States of at least \$50 million, or at least 30 times the total current decommissioning cost estimate (or the current amount required if certification is used), whichever is greater, for all decommissioning activities for which the college or university is responsible as a self-guaranteeing licensee.
- (B) For hospitals, to pass the financial test a hospital must meet either the criteria in Paragraph II.B.(1) or the criteria in Paragraph II.B.(2) of this appendix:
 - (1) For applicants or licensees that issue bonds, a current rating for its most recent uninsured, uncollateralized, and unencumbered bond issuance of AAA, AA, or A as issued by Standard and Poor's (S&P) or Aaa, Aa, or A as issued by Moody's.
 - (2) For applicants or licensees that do not issue bonds, all the following tests must be met:
 - (a) (Total Revenues less total expenditures) divided by total revenues must be equal to or greater than 0.04.
 - (b) Long term debt divided by net fixed assets must be less than or equal to 0.67.
 - (c) (Current assets and depreciation fund) divided by current liabilities must be greater than or equal to 2.55.

- (d) Operating revenues must be at least 100 times the total current decommissioning cost estimate (or the current amount required if certification is used) for all decommissioning activities for which the hospital is responsible as a self-guaranteeing license.
- (C) In addition, to pass the financial test, a licensee must meet all the following requirements:
 - (1) The licensee's independent certified public accountant must have compared the data used by the licensee in the financial test, which is required to be derived from the independently audited year end financial statements, based on United States generally accepted accounting practices, for the latest fiscal year, with the amounts in such financial statement. In connection with that procedure, the licensee shall inform Agency within 90 days of any matters coming to the attention of the auditor that cause the auditor to believe that the data specified in the financial test should be adjusted and that the licensee no longer passes the test.
 - (2) After the initial financial test, the licensee must repeat passage of the test within 90 days after the close of each succeeding fiscal year.
 - (3) If the licensee no longer meets the requirements of Section I of this appendix, the licensee must send notice to the Agency of its intent to establish alternative financial assurance as specified in Agency regulations. The notice must be sent by certified mail, return receipt requested, within 90 days after the end of the fiscal year for which the year end financial data show that the licensee no longer meets the financial test requirements. The licensee must provide alternate financial assurance within 120 days after the end of such fiscal year.

III. Self-Guarantee

The terms of a self-guarantee which an applicant or licensee furnishes must provide that:

- (A) The guarantee shall remain in force unless the licensee sends notice of cancellation by certified mail, and/or return receipt requested, to the Agency. Cancellation may not occur unless an alternative financial assurance mechanism is in place.
- (B) The licensee shall provide alternative financial assurance as specified in the Agency's regulations within 90 days following receipt by the Agency of a notice of cancellation of the guarantee.
- (C) The guarantee and financial test provisions must remain in effect until the Agency has terminated the license or until another financial assurance method acceptable to the Agency has been put in effect by the licensee.
- (D) The applicant or licensee must provide to the Agency a written guarantee (a written commitment by a corporate officer or officer of the institution) which states that the licensee will fund and carry out the required decommissioning activities or, upon issuance of an order by the Agency, the licensee will set up and fund a trust in the amount of the current cost estimates for decommissioning.

- (E) If, at any time, the licensee's most recent bond issuance ceases to be rated in any category of "A" or above by either Standard and Poor's or Moody's, the licensee shall provide notice in writing of such fact to the Agency within 20 days after publication of the change by the rating service.